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Towards a quantification of climate related ecosystem services of urban forests in the urban area of Augsburg (Southern Germany)

Christoph Beck (1), Joachim Rathmann (1,2), Simon Flutura (3), Andreas Seiderer (3), Elisabeth Andre (3), and Jucundus Jacobeit (1)

(1) University of Augsburg, Institut für Geographie, Physische Geographie und Quantitative Methoden, Augsburg, Germany (christoph.beck@geo.uni-augsburg.de), (2) University of Würzburg, Institut für Geographie und Geologie, Geographie und Regionalforschung, (3) Institute of Computer Science, Multimedia Computing and Computer Vision, University of Augsburg

Forests are of major importance to human society worldwide, contributing to several ecosystem services fundamentally. This includes biodiversity as a key factor but as well climatic and bioclimatic effects of forests which are relevant in particular with regard to urban forests.
In this contribution we present the conceptual approach and show and discuss first results of ongoing interdisciplinary research in the third largest urban forest in Germany (Augsburg, Bavaria, southern Germany). The research objectives comprise the evaluation of forest recreation behaviour and the valuation of forest recreation benefits, the perception of deadwood and the quantification of the climatic and bioclimatic effects of urban forest structures.
Concerning climatic and bioclimatic effects of urban forests in the urban area of Augsburg several measurement campaigns have been performed in the years 2016 and 2017. These measurements comprise observations of air temperature and relative humidity and additionally the recording of physiological parameters (e.g. heart rate).
First results prove the potential positive effects of urban forests on bioclimatic conditions (e.g. reduction in maximum temperatures) and moreover show the beneficial effects of urban green structures on human physiological parameters (e.g. reductions in heart rate).